

ON THE

SUBCUTANEOUS AND OTHER METHODS

OF

DIVIDING STRICTURES OF THE URETHRA.

BY

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With Twenty-one Woodcuts.

LONDON:
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1878.

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INTRODUCTION.

SINCE my paper was read before the Medical Society of London and published in the 'Medical Press and Circular' (Jan. 17th, 1877), I have had numerous letters and applications concerning the different instruments—exhibited to the Society—used by me in treating strictures. Others have asked me (principally from America) about the mode of performing the subcutaneous operation.

These inquiries have induced me to publish the paper with woodcuts; and, in addition, the paper I read before the Royal Medical and Chirurgical Society of London in the year 1864, together with the case given in illustration, operated upon successfully by my friend, Mr. William Adams. The subcutaneous section of strictures *if not properly executed and also rationally treated* afterwards will not succeed. It has the great advantage over the other operative proceedings for the cure of strictures, that it can, by its application and *proper after-treatment*, better fulfill the surgical indica-

tions for curing strictures. Contraction, deviation of the urethra, and also fistula, and retention of urine are the practical points I have in mind in publishing the two papers. But I advise the practical surgeon to pay great attention to the above-mentioned points in the pathological anatomy, and if his treatment is in accordance with the principles I have pointed out, he will not be so often disappointed in the treatment, as we daily see in many cases of strictures operated upon by other methods.

HENRY DICK.

59, Wimpole Street, W.
January 1st, 1878.

PLATE I.

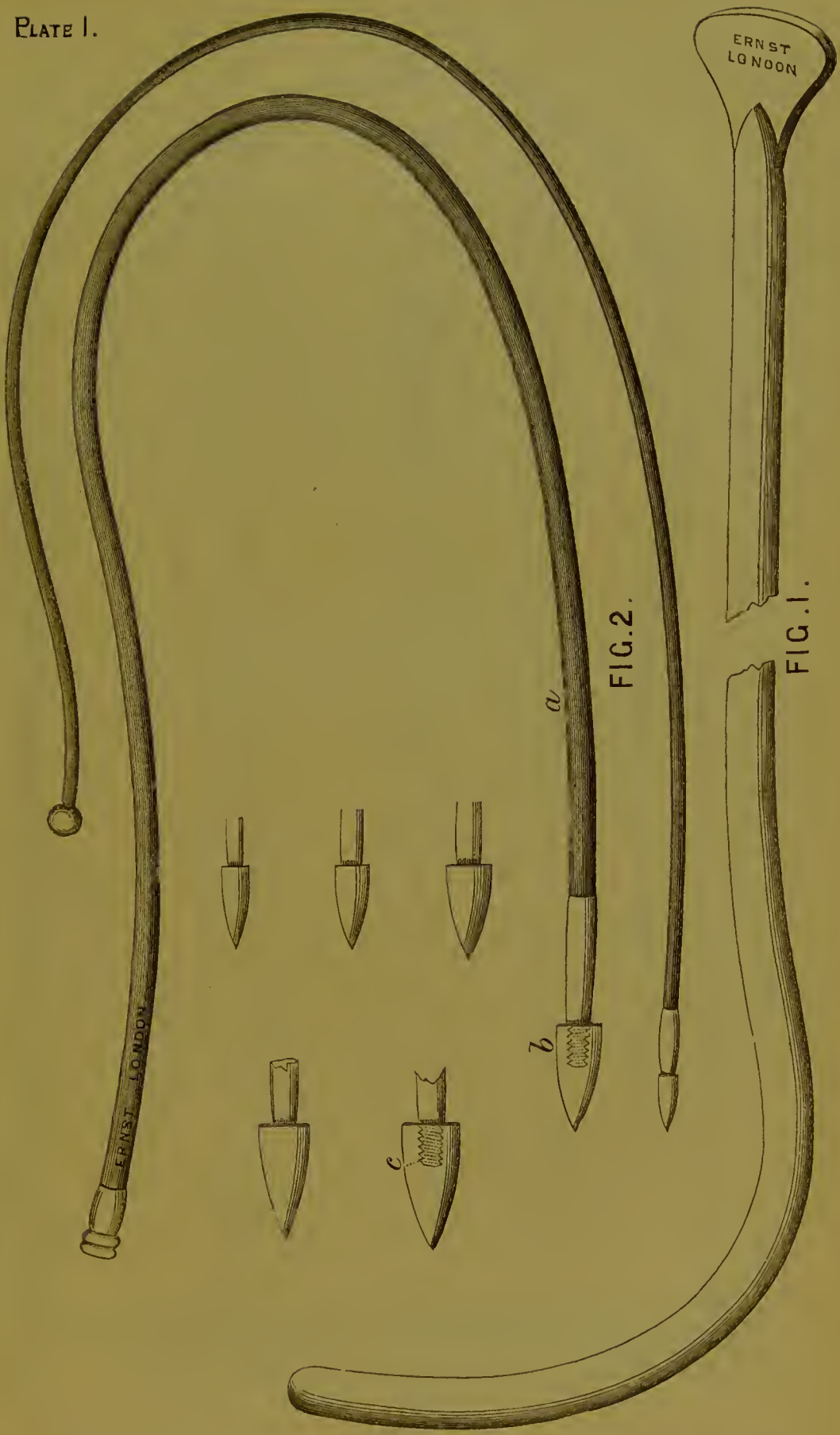


FIG. 1.—Metallic Urethral Bougie.

,, 2.—Metallic-headed Explorator (*bougie à boule*), consisting of a gum-elastic stem *a*, at the end of which the bulbs are screwed on, as shown by the dotted line at *b*. In this way a number of bulbs can be used on one stem.

Plate II.

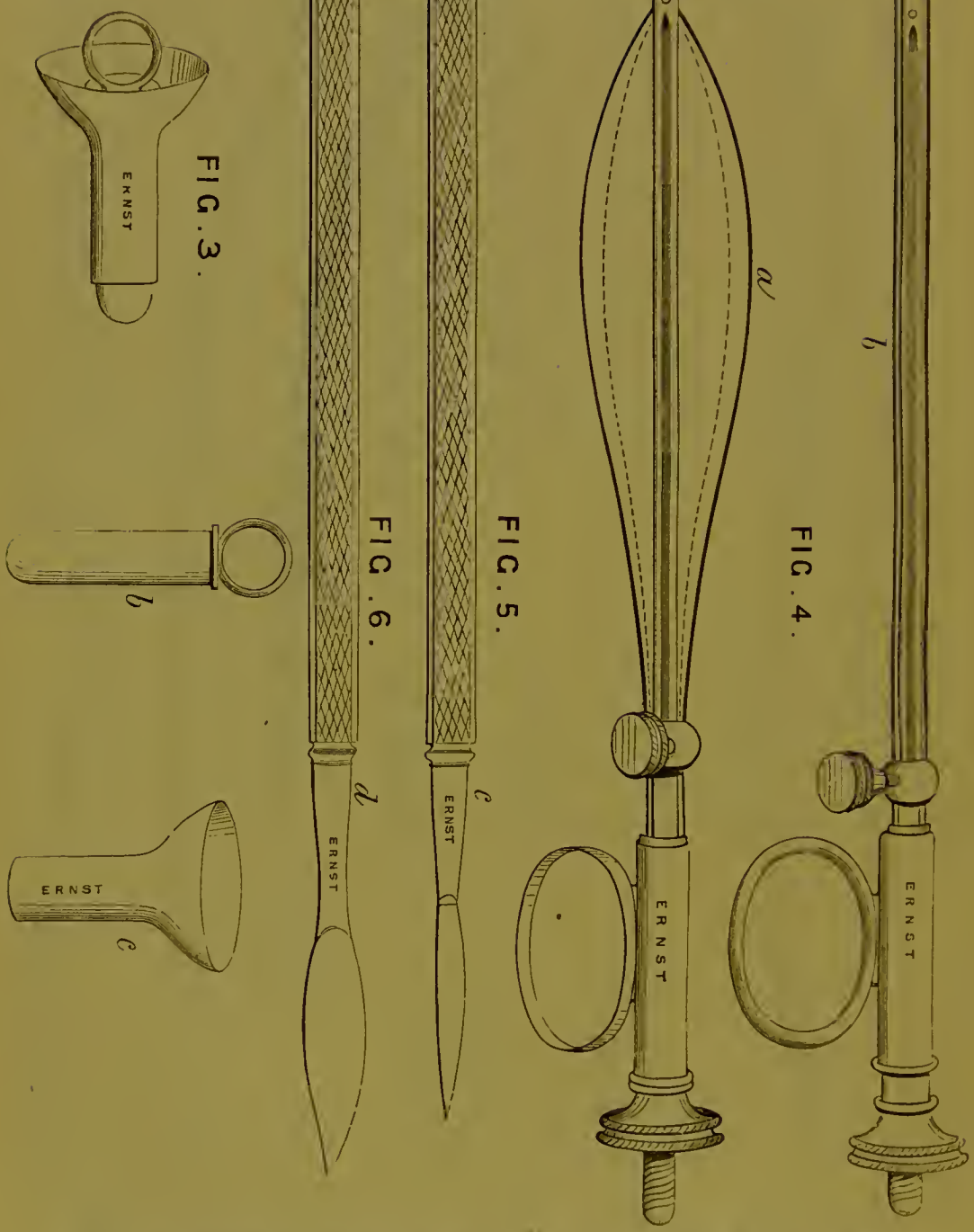


Fig. 3.—Silver Speculum, for exploring the urethra at the orifice. *b*, small metallic Bougie, for insertion after incision of the retracted orifice, or for stricture, or for operated stricture near the orifice.

„ 4.—Conducting Dilator. *a*, opened; *b*, shut.

„ 5.—Tenotome, for division of stricture subcutaneously or through the orifice.

„ 6.—Dr. Dick's Knife, for cutting contracted orifice of the urethra.

PLATE III.

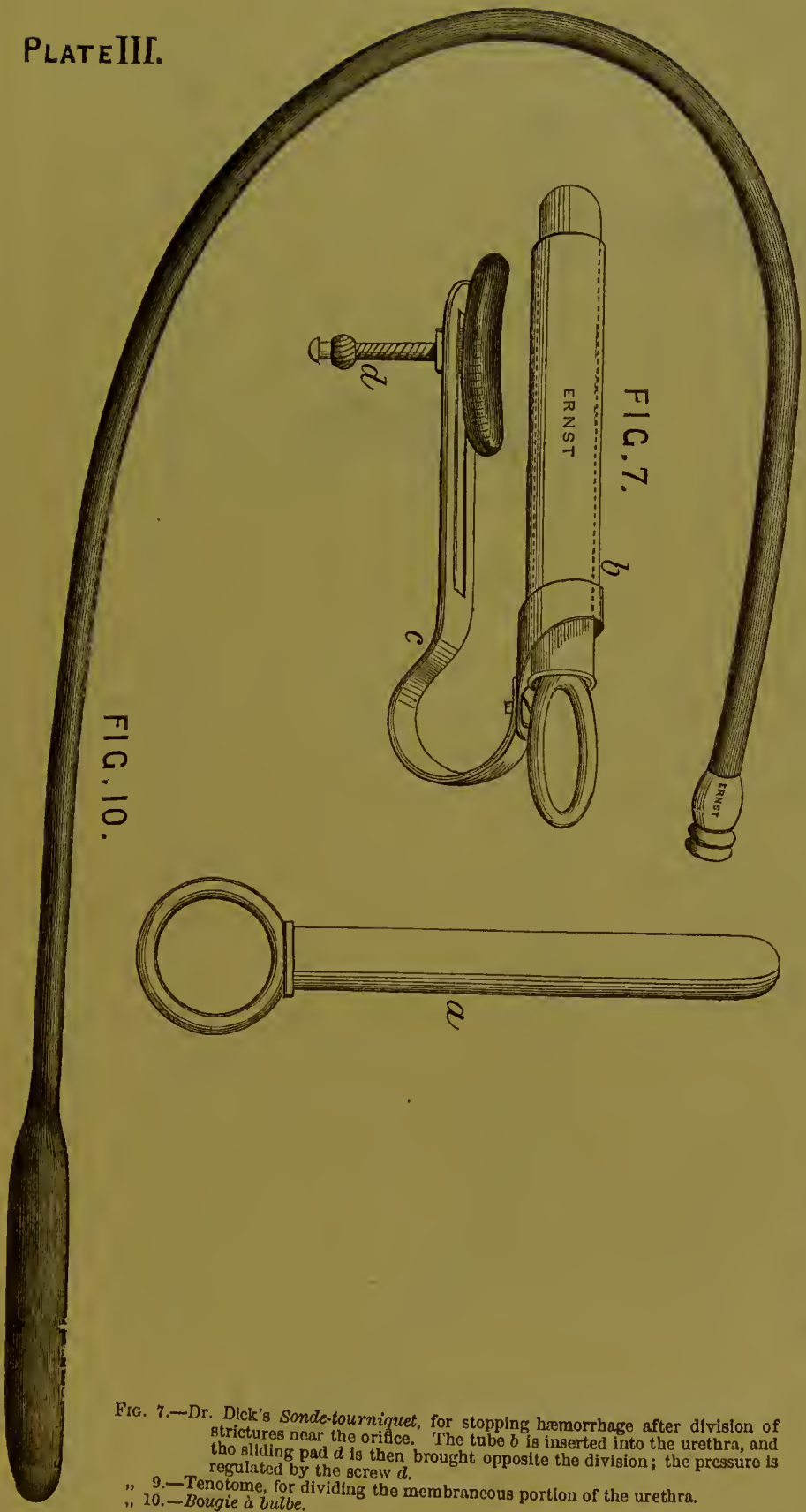
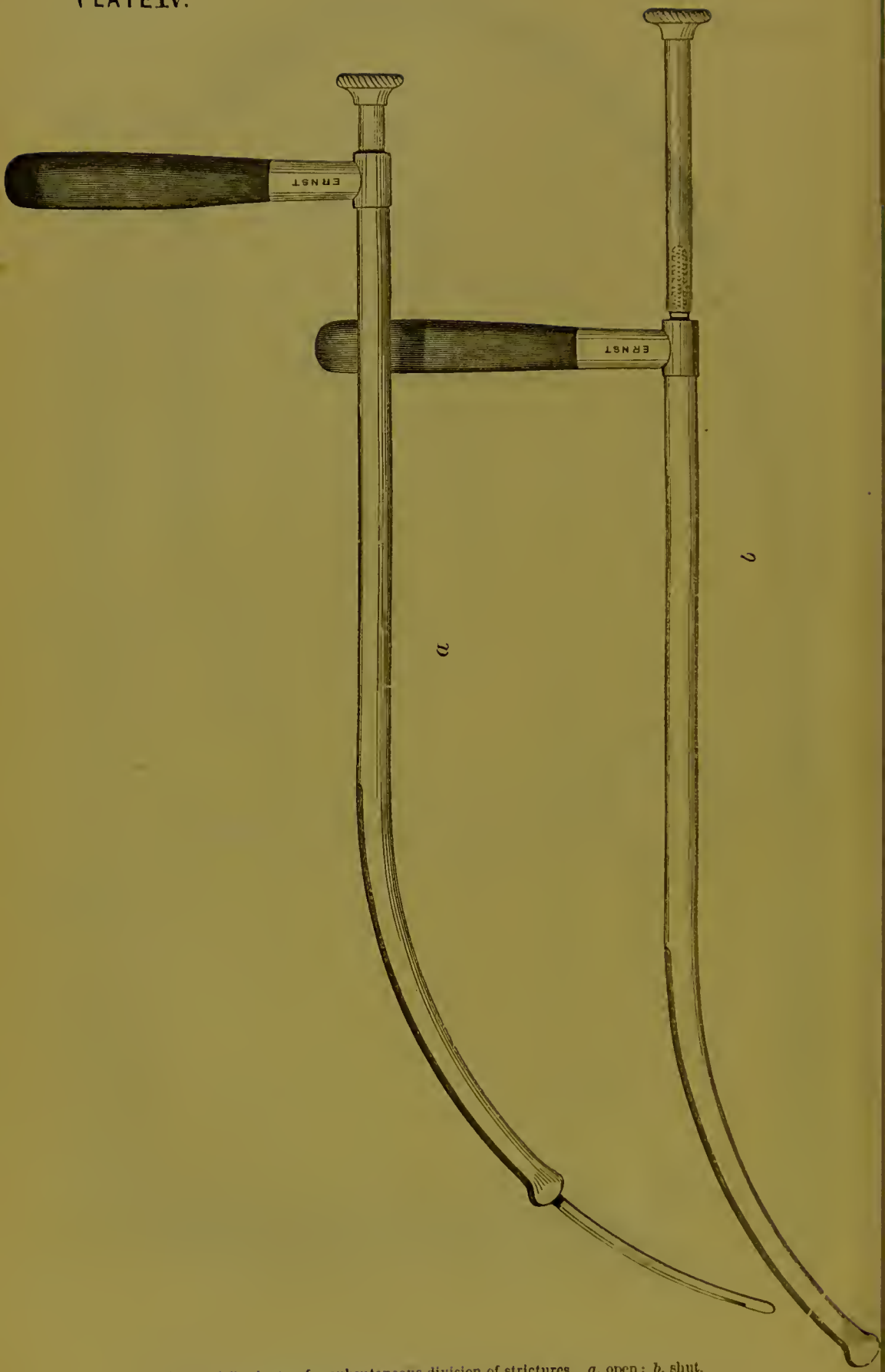


FIG. 7.—Dr. Dick's *Sonde-tourniquet*, for stopping hæmorrhage after division of strictures near the orifice. The tube *b* is inserted into the urethra, and the sliding pad *d* is then brought opposite the division; the pressure is regulated by the screw *d*.

„ 9.—Tenotome, for dividing the membranous portion of the urethra.

„ 10.—*Bougie à bulbe.*

PLATE IV.



The Grooved Conductor, for subcutaneous division of strictures. *a*, open; *b*, shut.

THE

SUBCUTANEOUS AND OTHER METHODS

OF

DIVIDING STRICTURES OF THE URETHRA.*

From the title of my paper do not expect a long introduction on the pathology of strictures of the urethra, or the description of the different forms and their treatment. I will only touch upon the practical points and controversies of cutting strictures. Days and weeks would not be sufficient to discuss the actual state of the surgery of urethral stricture, and this meeting of a few hours' duration can only be usefully occupied in discussing the operation of cutting strictures, and what is, in my opinion, the best method of cutting them.

Do not believe, when I speak of operations upon strictures, that I am a great partisan of cutting them. I have stated years ago in all my writings, that division of strictures should be in most cases the exceptional treatment. The best

* Read before the Medical Society of London, Nov. 20, 1876.

and safest treatment, according to my experience, is the methodical and gradual dilatation by the metallic urethral bougie (see Plate I., Fig. 1); each metallic bougie remaining about five minutes, and passing, as the case may be, one or two, or even three to four sizes at one visit; of course, with caution to avoid accidents, such as orchitis, which, in cases where the stricture is near the prostate gland, and is in an irritable state, or very contracted, the bougie is liable to produce. I use the expression metallic urethral bougie, because such bougie should imitate the anatomical shape of the urethra. In all our books very little difference is made between the urethral bougie and the bougie used for other purposes in disease of the bladder and prostate gland. Its length should be so constructed that it does not go beyond the urethra and enter into the bladder.

The practice of gradual dilatation has been very successful in my hands during the last thirty years. About ten years ago I observed that to leave the metallic bougie only a short time in the urethra was more advantageous than to leave it a long time, or even twenty-four hours, as some surgeons still recommend.

At the same time I take the liberty to exhibit here my improved metallic explorator of the urethra (see Plate I., Fig. 2), which has many

advantages over the old elastic *bougie à boule.* In practice the *bougie à boule* and the *bougie olivaire* have been often confounded. I dare say you have read the controversy about it in the 'Lancet,' so I will not say more on this subject. In my metallic explorator you observe the shoulder is rather abrupt, and the reason of this is, because in drawing back, deviation or slight tightening in the urethra can be detected.

For the diagnosis of strictures near the orifice of the urethra, or any other disease near the orifice of the urethra I use this speculum (see Plate II., Fig. 3 and *c*) I now exhibit to the Society. But to come back to my subject of cutting strictures of the urethra, I am obliged to state that in some exceptional cases dilatation will not succeed.

Some patients will object to the long treatment by the metallic bougie; or they are on active service in the colonies, and have no time to stay in England; they want to be cured, and avoid the risk of being troubled with retention of urine in a distant country where good medical advice is scarce. Or in some cases the stricture or strictures are so contracted, that dilatation is almost impossible, or, if even dilated, the strictures remain open only for a very short time, and retention of urine recurs at the slightest cold or a little excess in *Baccho et Venere.* In all such cases I think

division of the stricture is required. Other methods of treatment have been recommended for such cases, as splitting, *potassa fusa*, electric cauterization.

I shall give briefly my personal experience and view of these methods of treatment. Splitting was introduced into English surgical practice about fifteen years since, and has found many advocates. At that period nobody knows better than you, Sir, that I prophesied, "The profession will be disappointed." The prophecy has been realized. The reasons I then gave were (1) we do not tear parts in surgery when they can be cut; (2) we do not know what we tear; and (3) the constitutional disturbance and subsequent local contraction after lacerated wounds is more severe than after incised wounds; (4) the local nervous system of the urethra will certainly be more injured, and therefore the patient will be more exposed to pyæmia. I know one case where the operation of splitting the stricture could not be performed, because the toughness of the pathologically composing parts of the stricture resisted all efforts of the splitting instrument.

I oppose cauterization of strictures on several grounds: (1) There is nothing to be destroyed; the constriction of the urethra is the result of want of material; it is contraction; (2) if we destroy

the contraction by *potassa fusa*, or the electric cautery, we shall have a new cicatricial tissue more troublesome than the previous stricture. We see the result of burning in cicatrices on the external surface of the human body, and how troublesome they are to treat. We do not burn again cicatrices after burns, but we divide them; or, in some cases, try the mechanical treatment of extension. Cauterized strictures seen four or five years after the operation, have been the most troublesome in my practice.

Having stated my objection to splitting and cauterizing strictures, I will now give my views on cutting them.

Several methods of cutting have been proposed and practised: (1), Internal Division; (2), External Division, which is practised by different methods, (*a*) Syme's operation; (*b*) *la boutonnière;* and (*c*) my operation, the subcutaneous division of strictures. I call it my operation, because efforts have been made *to deprive* me of the credit of the invention of this method of operating. Before I had published my first case in the 'Medical Times and Gazette,' 1853, there was not one word mentioned in any book or in any printed matter previous to this date on the subcutaneous division of strictures. It has been attributed to two dead men to have performed this operation, by a

surgeon who wrote a book in the year 1869 on the subject of stricture. Unfortunately for the writer I have the clearest proof of his error, not to call it by a more severe expression.

In the year 1853, Mr. Syme read a paper on his operation before the Royal Medical and Chirurgical Society of London, and I wrote the review on it in the 'Medical Times and Gazette,' and in this review I have related a case of my operation in contrast with Syme's operation. Syme never laid any claim to the operation at that period. Mr. Avery never laid any claim to the operation. There is still a member of our profession alive who will testify to the accuracy of my assertion, and who was present at my conversation with the late Mr. Avery on the subject. I could give you further proofs of my assertion, but I will not detain you longer on the subject by my personal complaints against the erroneous writings by surgeons on this subject.

The most frequently practised operation in our time is the internal division of strictures, and a number of instruments have been invented to make the operation safe and successful.

I have given up the operation for these reasons:—(1) We have to confide too much to mechanism in cutting strictures, and the tyro surgeon will find great difficulty in using them;

they will be even dangerous in his hands if not used with the greatest precaution. (2) We are never sure we are cutting in the exact spot, or have cut completely the whole extent of the stricture. I know many contrivances have been made to obviate the uncertainty of the above-mentioned instruments. In theory they seem correct, but in practice they prove faulty. With the internal urethrotome we cannot be sure we have made a *deep* and long cut; nor can we be sure that the stricture is completely divided, and without these precautions a certain failure will be the result of the operation. If the first cut of the urethrotome is a failure, the instrument cannot be introduced with ease in the same sitting. I practise internal division only in cases of strictures near the orifice of the urethra, which is done by a grooved dilator (I now exhibit here, see Plate II., Fig. 4) and a small tenotome (see Plate II., Fig. 5). The grooved and conducting dilator (see Plate II., Fig. 4) is a modification of the instrument of the late M. Reybard, of Lyons. M. Reybard is quite correct in believing that to cut a stricture with success it should be stretched; but this only can be done with certainty in strictures in the neighbourhood of the orifice of the urethra. I have found in practice, that in deep-seated strictures in opening the two blades of the dilator the

instrument gets displaced, and we are not sure then that we are stretching and cutting on the most contracted spot. That is the reason I have omitted to arm my conducting instrument for cutting strictures subcutaneously deep down in the urethra with any dilating blades. In one case, where I had the advantage to have the able assistance of your President last year, he could convince himself of the easy execution of the operation.* I also exhibit here an instrument which I leave in the urethra after the operation to arrest hæmorrhage, and which I call *Sonde-tourniquet* (see Plate III., Fig. 7). I also exhibit to the

* In October, 1877, I was requested to see a patient at the National Hospital for the Paralysed and Epileptic in Queen's Square, C. N., æt. 35, suffering from incomplete retention of urine caused by stricture about two inches from the orifice, and also an extremely contracted condition of the orifice of the urethra, through which a catheter only of the smallest size could be with difficulty introduced.

As this seemed to be a favourable case for Dr. Dick's operation, which I had seen him successfully perform on several occasions, I requested him to see the patient with me, and as he concurred in the opinion I performed the operation with his assistance. At first I introduced the conducting dilator, and after opening the two blades, divided the contracted orifice by introducing Dr. Dick's broad-bladed knife. The deeper stricture, about two inches from the orifice, was then detected, and, after carrying forward the conducting dilator, I divided this by introducing an ordinary tenotomy knife through the urethral orifice. After this, I easily introduced a metallic bougie of the size of No. 10, English gauge. Very little bleeding occurred, and no unfavourable symptoms or urethral fever followed. He was greatly relieved, and able to pass his water freely some weeks before he left the hospital. In this case it seemed to me that Dr. Dick's operation was a great improvement upon the other methods ordinarily in use.

WM. ADAMS.

Society the knife (see Plate II., Fig. 5) I use in the operation of the retracted orifice of the urethra, and the shape of the small metallic bougie is represented in Plate II., Fig. 6, used for preventing the closing of the orifice after operation. I will state here that I use for the division of strictures one inch or two inches from the orifice of the urethra a tenetome, which is introduced through the orifice; but for incision of the contracted orifice I use this knife (see Plate II., Fig. 5). After many trials of other methods for incising the retracted orifice of the urethra, I have found this shape of knife, with the grooved dilating conductor, the most successful method for incising the contracted orifice.

External division may be performed by three methods :—

(*a*) Syme's operation, which is an operation almost as severe as cutting for stone.

In Syme's operation, structures are divided which have no connection with the strictured part. The wound is large, the healing process is long, consequently more danger of pyæmia; and after such a large wound, recontraction of the divided parts is more to be feared. The only exceptional indication for Syme's operation may be traumatic strictures, where sometimes the skin does contribute to the contracted stricture or strictures; but even in

these cases I would give first a trial to the harmless subcutaneous division, and try to overcome the skin cicatrices by dilatation; or the contracted cicatrices of the skin in some cases I would treat after Mr. William Adams's method,* or by rhinoplastic operations. I should proceed to Syme's operation only after the failure of the subcutaneous method.

(*b*) The *boutonnière* is another mode of operating on impassable strictures; it is also external division of the urethral stricture.

I was at one time a great partisan of *la boutonnière* when no instrument can be passed. But I must say that I am very sceptical about such strictures where no instrument can be passed. The resources of surgery thirty years ago were limited, but since we have the whalebone *olivaire bougie*, since we have the *bougie entortillée*, I think that with patience very few strictures are impassable, and once the smallest bougie passed, even of the size of a hair, the retention of urine ceases, according to my experience. Impassable strictures are generally in a state of swelling and inflammation, and it is this and the tortuous nature of the stricture which make them impassable. The retention of urine increases the

* "On a New Operation for the Obliteration of Depressed Cicatrices after Glandular Abscesses and Exfoliation of Bone," by W. Adams, F.R.C.S., 'Brit. Med. Journal,' p. 260, 1875.

inflammation of strictures, and as soon as the bladder is relieved, the stricture becomes amenable to treatment. If all efforts to pass the finest bougie fail, there remains, as the last resource, the subcutaneous puncture of the bladder in connection with the vacuum pump, an operation without danger and of easy execution. After having stated my convictions on this subject, I believe the cases where *la boutonnière* is indicated have greatly diminished.

(*c*) I will now speak, lastly, of the subcutaneous operation for curing strictures.

I have practised this operation in cases in which it is indicated during the last twenty-five years. The operation is of easy execution. I have described it in another place,* and I will not repeat its mode of performance. I will only show you the instruments I use for the performance of the operation. (1) A grooved conductor † (see Plate IV., Fig. 11, A and B). (2) A tenotome (see Plate II., Fig. 5) for cutting strictures subcutaneously in front of the scrotum, and this long-necked tenotome (see Plate III., Fig. 9) for strictures behind the scrotum.

Some surgeons have expressed the opinion,

* 'Proceedings of the Royal Medical and Chirurgical Society of London,' vol. iv., 1864, p. 361.

† I have seen my conductor altered by diminishing the size of the knobs. This is an error. The knobs should be prominent to be good guides for the finger; and, secondly, to stop at the *widest* part of the stricture, and act also as a stretcher to the stricture.

that the subcutaneous division of strictures is only useful in cases of strictures of the penal portion of the urethra, or in single strictures. This is an error. The subcutaneous division of strictures is practicable in all portions of the urethra, and for all kinds of strictures. In fact, I have found it easier to divide strictures subcutaneously in the membraneous portion than in any other part of the urethra, because the finger of the left hand, when introduced into the rectum, can easily feel the long-necked tenotome and the knobs of the grooved conductor.

Two causes of failure in treating strictures by division have frequently been overlooked in practice, namely, (1) incomplete division of strictures; and (2) the faulty after-treatment. But complete division of stricture is so essential to the success of the treatment that, when neglected, the after-treatment cannot remedy it. That is the reason surgeons are so often disappointed with the result of the operation. Therefore, the general opinion of surgeons is a disbelief in any successful treatment of strictures. In my own practice I had several examples illustrating the difficulties to be overcome.

You remember, Sir, the case of the gentleman in St. John's Wood, where I had the advantage of your assistance, where, after the first cut, the

bougie à boule indicated a small obstacle farther down, and I found it prudent, with your assent, to plunge the tenotome through the farther obstacle. The result of the operation, which was a complete success, has proved the truth of this principle. It is now three years since the operation was performed, and the urethra of the patient has remained in a healthy state.

In a later case, where, Sir, you were present too, I repeated the operation three weeks after the first operation, because in the meantime I had convinced myself that another obstacle existed farther down the urethra, and without cutting this obstacle the operation would have been a failure. After the second operation the treatment was successful.

I have seen one of my cases about six months ago, operated upon fifteen years since. The gentleman is married and has one child. In this case I could not find the least trace of a stricture. I think, Sir, you will also remember a case I sent to you for examination, operated upon about six years before, and you could not detect a vestige of stricture.

I think I must attribute the success of my operation to three causes :—1. By the subcutaneous method the stricture can always be divided in its entire length and depth. 2. During the

treatment I pass an instrument, which I call *bougie à bulbe* (see Plate III., Fig. 10), and I now exhibit it to you. By this instrument the portion of the urethra operated upon is made much larger than the rest of the urethra, and so allows some room for contraction of the cicatrix when this takes place. The third precaution is (when the stricture is divided) to dilate the stricture several times a week in the first six months after the operation. According to my experience contraction is to be most feared during the first six months, and the liability to it is kept up during the first two years after the operation. A well-known surgeon said once in his lectures on the treatment of strictures, "Do what you will, tear them, cut them, dilate them, the stricture will return again." Well, that is a sad prospect for surgery! I am not of the same opinion. When I saw in my earlier practice strictures operated upon turn out unsatisfactorily, or being a complete failure, or even worse than before the operation, many reflections took place in my mind. I asked, what is the reason of these failures? Why do they contract again; some later, some as early as three months after the operation? We see these relapses in other operations, principally in orthopædic surgery, such as club-foot, contracted hand, &c. What is the reason of a relapse after the opera-

tion? There are two reasons for relapse after operation in orthopædic surgery; one is that not all parts constituting the deformity have been divided; the second is, that the after-treatment has not been properly conducted, or continued long enough.

I believe a stricture well operated on, well treated afterwards, and carefully attended, will not recontract. Wounds of tendons, or any tissue, will contract, when neglected; we see such cases daily in the cure of clubfoot. In fact, at this moment, many surgeons of our day are very sceptical about the cure of club-foot by operation, repeating the same story as of strictures. Those cases have been simply either neglected or badly operated on. The plain truth is, we can cure a club-foot in modern times. From what I have now stated, I come to the following conclusions:—

1. A stricture can be cured by dividing it.

2. That the easiest and surest method is the subcutaneous incision, with few exceptions, in which other operations are indicated.

3. The cut should always be long and deep.

4. That two years' treatment is necessary to ensure a successful result.

MR. ADAMS'S CASE.

Extracted from the 'Proceedings of the Royal Medical and Chirurgical Society of London,' vol. iv., No. VI., p. 364. 1864.

In June, 1862, C. W., æt. 26, an officer in the army, first consulted Mr. Adams on account of a very severe stricture of the annular or ring-like form and gristly substance situated in the anterior portion of the urethra, two inches and a quarter from the external orifice. The stricture, which could easily be felt by external examination, had been caused by the bite of a horse in India a year and a half previously, and the inconvenience now suffered by the patient incapacitated him for military duty. At the time of the accident both the scrotum and penis were much injured; profuse hæmorrhage from the urethra occurred, and a portion of the mucous membrane is said to have protruded from the external orifice. Abscess formed and opened externally close to the frænum, where a fistulous opening communicating with the urethra remained at the date of Mr. Adams's operation. Ever since his recovery from the immediate effects of the injury, the patient had been obliged to wear, night and day, a short catheter of small

calibre (about No. 2); the disposition to contraction being so great that if this were discontinued more than a few hours, he had the greatest difficulty in passing a tube even of less diameter than a No. 1 catheter. Mr. Adams considered that an operation offered the only means of permanent cure; but at the patient's request this was postponed, and gradual dilatation tried by a graduated series of short silver catheters. The patient left town, and persevered in this treatment for eight months, wearing a catheter day and night. Dilatation could not be carried further than to admit a No. 4 catheter, which was habitually worn, when Mr. Adams was again consulted in February, 1863. The disposition to contraction was so great that when the No. 4 catheter was left out during the night, only a No. 1 or No. 2 catheter could be passed in the morning. Mr. Adams now urged an operation; and, thinking that any attempts at forcible dilatation, such as Mr. Holt had recommended, would probably fail in consequence of the large size and unusual gristly induration of the stricture, determined to adopt the subcutaneous division of Dr. Dick, more especially as he had assisted Dr. Dick in two operations of this kind in severe cases, in both of which the operation had been eminently successful.

On the 16th of March, 1863, Mr. Adams per-

formed the operation, with the assistance of Dr. Dick. The instruments used were the tenotomy knife, and Dr. Dick's grooved staff with a bulbous extremity, having within it a smaller grooved staff, which can be passed through the stricture, and form a director, along which the knife can be passed in dividing the stricture, when the bulb of the larger staff has been passed down to the stricture as a guide for the introduction of the knife. In performing the operation, the tenotomy knife was passed through the skin externally, directly into the groove in the bulb of the larger staff, and thence onwards along the groove in the smaller staff through the stricture; then, leaving the groove, the knife was directed outwards towards the skin, dividing freely the stricture and some of the corpus spongiosum a little above and below it. In the present case no difficulty occurred in the operation; but, as a complication, two other strictures were discovered by the bulb of the larger staff—one an inch and a half from the external orifice (i. e. nearly an inch anterior to the main stricture), and the other more than an inch behind the main stricture: so that in order to divide these, it was necessary to introduce the tenotomy knife in two different places. When the main stricture was divided, the tissue gave way very much like a tightly-stretched tendon, and could be both heard and felt.

Immediately after the operation, in which very little hæmorrhage occurred, a No. 12 (English) catheter was passed into the bladder without any difficulty, and left in for a short time, slight pressure on the penis being kept up. The catheter was not left in during the night. The next day a No. 12 catheter was introduced twice, and the urine drawn off. This was continued day after day two or three times, and on the fourth day the patient was indiscreet enough to walk down to his club and dine with some friends. Not feeling so well afterwards, he remained two days indoors. On the eighth day he went out of town. He was able to pass a No. 10 catheter for himself without any difficulty, and this he was directed to do at first twice and then once a day. The No. 12 catheter seemed to meet with a little obstruction at the seat of the deepest stricture, or a little beyond this, but passed readily through the situation of the main stricture. On the 15th of April the patient was carefully examined by Mr. Adams, and no disposition to re-contraction existed. He was improved in every respect. On the 8th of June, less than three months from the date of the operation, Mr. Adams reported this gentleman as fit for active military duties. He was now directed to continue passing the No. 10 catheter twice a week and then once a week, which was to be gradually discontinued. It

may be safely affirmed that in this case no better result could have been obtained by any other method of treatment; and it certainly offers encouragement to test further the advantages of the subcutaneous division of stricture, and determine the cases to which this method of treatment is especially applicable.